& BUMED

Patient Handling Study

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Ergonomics Lessons Learned

This presentation does not constitute an endorsement of any particular product. Rather, it is a recitation of how BUMED facilities have addressed a particular work place safety issue. Neither the Navy nor its employees and agents warrant any product described in this presentation for any use, either general or particular.

2002 Participating Facilities

- Naval Medical Center Bethesda
- Naval Hospital Beaufort
- Naval Hospital Oak Harbor, WA
- Naval Medical Center San Diego

Bethesda Naval Hospital
Patient Handling Surveys

- Employee Surveys
  - Baseline
  - Follow-up after equipment purchase

- Equipment Surveys
  - Equipment Feature Rating Survey
  - Equipment Ranking Survey
  - Patient Transfer Rating Survey

Employee Surveys

- Background Information: Job Title, Length of Employment, Hours per week worked….
- Optional Questions: smoking and exercise
- Organizational Factors
- Physical Effort
- Patient Handling, Patient Transfer, Patient Repositioning
- Training
- Health Questions
- Comfort Survey

Product Trials - Equipment Surveys

Please circle the value (0 to 10) that corresponds to your impression of the following features during product use:

OVERALL EASE OF USE?

OVERALL COMFORT for the caregiver?

EFFICIENT use of the caregiver's TIME?

SAFETY for the CAREGIVER?

Very Poor — Average — Good — Very

0 1 2 3 4 5 6 7 8 9 10

Product Trials - Equipment Surveys

SAFETY for the PATIENT
SLING ATTACHMENT (ease of use)
POSITIONING HANDLE (ease of use)
FUNCTIONALITY (sufficient mode of operation)
PRODUCT CONTROLS (ease of use)
BATTERY CHARGING SYSTEM (ease of use)
Comments:

Very Poor Average Good Very

0 1 2 3 4 5 6 7 8 9 10

Equipment Ranking Survey

For each of the features shown in the equipment survey the employee had to rank a piece of equipment in order of preference and provide comments.

A. *ArJo Opera patient lift* *1.*_____
B. *Liko Golvo patient lift* *2.*_____
C. *Liko Freespan ceiling lift* *3.* _____

*Comments:*_____
_____
_____
_____

Product Trials – Patient Surveys

Please circle the value (0 to 10) that corresponds to your answer:

How would you rate your OVERALL COMFORT during product use?

What is your impression of this product's OVERALL EASE-OF-USE?

How COMFORTABLE were you while in the HARNESS ?

How easy was it to get INTO and OUT of the harness ?

How SAFE and SECURE did you feel during use of this product?

Very Poor — Average — Good — Very

0 1 2 3 4 5 6 7 8 9 10

Naval Medical Center Bethesda – Patient Handling: Lifts

Vendors are willing to loan equipment for trials and train personnel.

Arjo Opera Patient Lift:

Mobile transfer device

Cost: $18,700 with disposable slings. Purchase based upon employee selection

Liko Stationary Ceiling Lift:

Cost: $7,400 installed Purchased based upon employee selection.

NH Beaufort & NMC San Diego – Patient Handling: Lateral Transfers

Hovermat: uses a cushion of air to transfer patients on a perforated mat. Cost: $3,500 per system. NMC SD and NH Beaufort selected based on employee evaluation

Pull-e-Slide: Low friction sheet

Cost: $425, NH Beaufort employees decided against this product during trials. NMC SD satisfied with product. Alimed provides

Naval Hospital Oak Harbor- Patient Transportation: Solutions

Ambulance Cot, Cost: $2900

Hydraulic assist reduces weight of load, large wheel base increases stability, multiple handles allow technicians best hand position regardless of stature. Selected from employee product trials.

Naval Hospital Oak Harbor- Patient Transportation: Solutions

MX-Pro by Rugged Cot

Features include: Eight positions (12 – 37”), advanced foot end lift and grip handle design, light-weight aluminum construction, one-hand release breakaway with safety bar, one hand release, infinite position lift assist pneumatic back rest, oversize wheels with sealed casters, weight sensitive height positing release mechanism, max. capacity 500 lbs.

Naval Hospital Oak Harbor – Patient Transportation: Solutions

Wide-body Wheel Chairs

Cost: $900, **(**Convaquip XL Series from Wheelchairs Plus Inc) is designed for bariatric patients. Wider seat pan increases both patient and practitioner safety by allowing for easier transfers.

Features include: Wheel chair rated for 700 lbs., anti-tip device, 24”w x 20”d seat pan, elevating leg rest, height adjustable back rest

Naval Hospital Oak Harbor – Patient Transportation: Solutions

OB/GYN Stretcher

(Gynnie by Stryker) Cost: $5770. Features reduce force and time required to position patients increasing practitioner safety and patient comfort. Slim design allows better patient access in small exam room. Slide-out, durable, permanently attached foot rests release with one-hand. 500 lb. weight capacity.

Heavy Duty Stretcher

(Atlas by Stryker) Cost: $5036. Features include: 660 lb. weight capacity, integrated patient transfer board, pop-up push handles, large diameter casters, power-washable

Gynnie

Conclusions

- Product trials don’t have to be long or complicated to produce usable results
- Input gathered from the workers, safety specialists, occupational health professionals, and other personnel is invaluable during equipment evolution. This process will increase product acceptance, test product usability, and durability, and take advantage of worker experience.
- Successful product testing requires a dedicated leader to organize trials and motivate participants.